WHAT IS CLAIMED IS:

1   1.   A system for automatically validating medical information received via

2   a communication network, comprising:

3   a microprocessor-based controller; and

4   a computer readable medium, including instructions executable by the

5   microprocessor-based controller to:

6   receive a data set comprising patient information entered by a

7   physician, wherein receiving the data set begins a patient data entry session;

8   validate at least a portion of the data set against validation parameters

9   to determine if the entered patient information contains errors;

10   if one or more errors exist, prompt the physician to correct the one or

11   more errors, wherein after the one or more errors are corrected, the patient

12   information is validated;

13   store the validated patient information; and

14   end the patient data entry session.

1   2.   The system as recited in claim 1, wherein the patient information is

2   selected from the group consisting of objective patient information, subjective patient

3   information, and patient diagnosis information.

1   3.   The system as recited in claim 1, wherein the data set comprises data

2   associated with one or more fields, and wherein the validation parameters comprise

3   validation rules for the one or more fields.

1   4.   The system as recited in claim 1, wherein the computer readable

2   medium further includes instructions executable by the microprocessor-based controller to:

3   validate at least a portion of the data set against patient information previously

4   stored in a database to determine if any portion of the entered patient information is

5   inconsistent with the stored patient information; and

6   if inconsistencies are located, prompt the physician to verify that the entered

7   patient information is accurate, and correct any entered patient information that is determined

8   to not be accurate.

1   5.   The system as recited in claim 1, wherein the data set comprises data

2   associated with a plurality of fields, the plurality of fields including a first field to receive a

3   first measurement value for a patient symptom test and a second field to receive a second

4   measurement value for the patient symptom test, and wherein the computer readable medium

5   further includes instructions executable by the microprocessor-based controller to:

6   validate that the second field includes the second measurement value; and

7   if the second field does not include the second measurement value, prompt the

8   physician to enter the second measurement value into the second field.

1   6.   The system as recited in claim 5, wherein the computer readable

2   medium further includes instructions executable by the microprocessor-based controller to:

3   validate the second field against the first field to determine if the second

4   measurement value is reasonable in view of the first measurement value; and

5   if the second measurement value is not reasonable in view of the first

6   measurement value, prompt the physician to verify the first measurement value, verify the

7   second measurement value, enter a new first measurement value, or enter a new second

8   measurement value.

1   7.   The system as recited in claim 1, wherein the patient information

2   comprises subjective patient information, and wherein the computer readable medium further

3   includes instructions executable by the microprocessor-based controller to:

4   normalize the subjective information to adjust for physician biases.

1   8.   The system as recited in claim 1, wherein the medical information

2   further comprises data from an implantable medical device, which has been converted from a

3   first data format to a second data format, and wherein the computer readable medium further

4   includes instructions executable by the microprocessor-based controller to:

5   validate the second data format against the first data format to verify that the

6   conversion from the first data format to the second data format occurred without errors.

1   9.   The system as recited in claim 8, wherein the first data format

2   comprises a binary data format, and the second data format comprises an extensible mark-up

3   language (XML) data format.

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1   10.   The system as recited in claim 1, wherein the medical information

2   further comprises data from an implantable medical device, and wherein the computer

3   readable medium further includes instructions executable by the microprocessor-based

4   controller to:

5   analyze the implantable medical device data to determine implantable medical

6   device configuration parameters; and

7   determine whether the implantable medical device configuration parameters

8   are configured properly.

1   11.   The system as recited in claim 10, wherein the computer readable

2   medium further includes instructions executable by the microprocessor-based controller to:

3   notify a physician to reconfigure the implantable medical device if it is

4   configured improperly.

1   12.   The system as recited in claim 11, wherein the system notifies the

2   physician to reconfigure the implantable medical device electronically.

1   13.   A medical information validation system, comprising:

2   a microprocessor-based controller; and

3   a computer readable medium, including instructions executable by the

4   microprocessor-based controller to:

5   receive a data set in a first data format from an implantable medical

6   device;

7   convert the data set from the first data format to a second data format;

8   and

9   validate the second data format against the first data format to verify

10   that the conversion from the first data format to the second data format occurred

11   without errors.

1   14.   The system as recited in claim 13, wherein the first data format

2   comprises a binary data format, and the second data format comprises an extensible mark-up

3   language (XML) data format.

1   15.   The system as recited in claim 13, wherein the computer readable

2 medium further includes instructions executable by the microprocessor-based controller to:

3   analyze the data set from the implantable medical device to determine

4 implantable medical device configuration parameters; and

5   determine whether the implantable medical device configuration parameters

6 are configured properly.

1   16.   The system as recited in claim 15, wherein the computer readable

2 medium further includes instructions executable by the microprocessor-based controller to:

3   notify a physician to reconfigure the implantable medical device if it is

4 configured improperly.

1   17.   The system as recited in claim 16, wherein the system notifies the

2 physician to reconfigure the implantable medical device electronically.

1   18.   The system as recited in claim 13, wherein the computer readable

2 medium further includes instructions executable by the microprocessor-based controller to:

3   receive a data set comprising patient information entered by a physician;

4   validate at least a portion of the patient information data set against validation

5 parameters to determine if the entered patient information contains errors;

6   if one or more errors exist, prompt the physician to correct the one or more

7 errors, wherein after the one or more errors are corrected, the patient information is validated;

8 and

9   store the validated patient information.

1   19.   The system as recited in claim 18, wherein the patient information is

2 validated during a patient data entry session.

1   20.   The system as recited in claim 18, wherein the patient information is

2 selected from the group consisting of objective patient information, subjective patient

3 information, and patient diagnosis information.

1   21.   The system as recited in claim 18, wherein the patient information data

2   set comprises data associated with one or more fields, and wherein the validation parameters

3   comprise validation rules for the one or more fields.

1   22.   The system as recited in claim 18, wherein the computer readable

2   medium further includes instructions executable by the microprocessor-based controller to:

3   validate at least a portion of the patient information data set against patient

4   information previously stored in a database to determine if any portion of the entered patient

5   information is inconsistent with the stored patient information; and

6   if inconsistencies are located, prompt the physician to verify that the entered

7   patient information is accurate, and correct any entered patient information that is determined

8   to not be accurate.

1   23.   The system as recited in claim 18, wherein the patient information data

2   set comprises data associated with a plurality of fields, the plurality of fields including a first

3   field to receive a first measurement value for a patient symptom test and a second field to

4   receive a second measurement value for the patient symptom test, and wherein the computer

5   readable medium further includes instructions executable by the microprocessor-based

6   controller to:

7   validate that the second field includes the second measurement value; and

8   if the second field does not include the second measurement value, prompt the

9   physician to enter the second measurement value into the second field.

1   24.   The system as recited in claim 23, wherein the computer readable

2   medium further includes instructions executable by the microprocessor-based controller to:

3   validate the second field against the first field to determine if the second

4   measurement value is reasonable in view of the first measurement value; and

5   if the second measurement value is not reasonable in view of the first

6   measurement value, prompt the physician to verify the first measurement value, verify the

7   second measurement value, enter a new first measurement value, or enter a new second

8   measurement value.

1   25.   The system as recited in claim 18, wherein the patient information

2   comprises subjective patient information, and wherein the computer readable medium further

3   includes instructions executable by the microprocessor-based controller to:

4   normalize the subjective information to adjust for physician biases.

1   26.   A medical information validation system, comprising:

2   means for receiving a data set in a first data format from an implantable

3   medical device;

4   means for converting the data set from the first data format to a second data

5   format; and

6   means for validating the second data format against the first data format to

7   verify that the conversion from the first data format to the second data format occurred

8   without errors.

1   27.   The system as recited in claim 26, wherein the first data format

2   comprises a binary data format, and the second data format comprises an extensible mark-up

3   language (XML) data format.

1   28.   The system as recited in claim 26, further comprising:

2   means for analyzing the data set from the implantable medical device to

3   determine implantable medical device configuration parameters; and

4   means for determining whether the implantable medical device configuration

5   parameters are configured properly.

1   29.   The system as recited in claim 28, further comprising:

2   means for notifying a physician to reconfigure the implantable medical device

3   if it is configured improperly.

1   30.   The system as recited in claim 29, wherein the system notifies the

2   physician to reconfigure the implantable medical device electronically.

1   31.   The system as recited in claim 26, further comprising:

2   means for receiving a data set comprising patient information entered by a

3   physician;

4   means for validating at least a portion of the patient information data set

5   against validation parameters to determine if the entered patient information contains errors;

6   means for prompting the physician to correct one or more errors if one or more

7   errors exist, wherein after the one or more errors are corrected, the patient information is

8   validated; and

9   means for storing the validated patient information.

1   32.   The system as recited in claim 31, wherein the patient information is

2   validated during a patient data entry session.

1   33.   The system as recited in claim 31, wherein the patient information is

2   selected from the group consisting of objective patient information, subjective patient

3   information, and patient diagnosis information.

1   34.   The system as recited in claim 31, wherein the patient information data

2   set comprises data associated with one or more fields, and wherein the validation parameters

3   comprise validation rules for the one or more fields.

1   35.   The system as recited in claim 26, further comprising:

2   means for receiving a data set comprising patient information entered by a

3   physician;

4   means for validating at least a portion of the patient information data set

5   against patient information previously stored in a database to determine if any portion of the

6   entered patient information is inconsistent with the stored patient information; and

7   means for prompting the physician to verify that the entered patient

8   information is accurate and correct any entered patient information that is determined to not

9   be accurate if inconsistencies are located.

1   36.   The system as recited in claim 31, wherein the patient information data

2   set comprises data associated with a plurality of fields, the plurality of fields including a first

3   field to receive a first measurement value for a patient symptom test and a second field to

4   receive a second measurement value for the patient symptom test, and wherein the system

5   further comprises:

6   means for validating that the second field includes the second measurement

7   value; and

8   means for prompting the physician to enter the second measurement value into

9   the second field if the second field does not include the second measurement value.

1   37.   The system as recited in claim 36, further comprising:

2   validating the second field against the first field to determine if the second

3   measurement value is reasonable in view of the first measurement value; and

4   if the second measurement value is not reasonable in view of the first

5   measurement value, means for prompting the physician to verify the first measurement value,

6   verify the second measurement value, enter a new first measurement value, or enter a new

7   second measurement value.

1   38.   The system as recited in claim 26, further comprising:

2   means for receiving a data set comprising subjective patient information

3   entered by a physician;

4   means for normalizing the subjective information to adjust for physician

5   biases.

1   39.   A method for automatically validating medical data received via a

2   communication network, comprising:

3   receiving a data set from an implantable medical device;

4   analyzing the data set from the implantable medical device to determine

5   implantable medical device configuration parameters; and

6   determining whether the implantable medical device configuration parameters

7   are configured properly.

1   40.   The method as recited in claim 39, further comprising:

2   notifying a physician to reconfigure the implantable medical device if it is

3   configured improperly.

1   41.   The method as recited in claim 40, wherein the physician is notified to

2   reconfigure the implantable medical device electronically.

1   42.   The method as recited in claim 39, wherein the data set from the

2 implantable medical device is received in a first data format, and wherein the method further

3 comprises:

4   converting the data set from the first data format to a second data format; and

5   validating the second data format against the first data format to verify that the

6 conversion from the first data format to the second data format occurred without errors.

1   43.   The method as recited in claim 42, wherein the first data format

2 comprises a binary data format, and the second data format comprises an extensible mark-up

3 language (XML) data format.

1   44.   The method as recited in claim 39, further comprising:

2   receiving a data set comprising patient information entered by a physician;

3   validating at least a portion of the patient information data set against

4 validation parameters to determine if the entered patient information contains errors;

5   prompting the physician to correct one or more errors if one or more errors

6 exist, wherein after the one or more errors are corrected, the patient information is validated;

7 and

8   storing the validated patient information.

1   45.   The method as recited in claim 44, wherein the patient information is

2 validated during a patient data entry session.

1   46.   The method as recited in claim 44, wherein the patient information is

2 selected from the group consisting of objective patient information, subjective patient

3 information, and patient diagnosis information.

1   47.   The method as recited in claim 44, wherein the patient information

2 data set comprises data associated with one or more fields, and wherein the validation

3 parameters comprise validation rules for the one or more fields.

1   48.   The method as recited in claim 39, further comprising:

2   receiving a data set comprising patient information entered by a physician;

3   validating at least a portion of the patient information data set against patient

4   information previously stored in a database to determine if any portion of the entered patient

5   information is inconsistent with the stored patient information; and

6   prompting the physician to verify that the entered patient information is

7   accurate and correct any entered patient information that is determined to not be accurate if

8   inconsistencies are located.

1   49.   The method as recited in claim 48, wherein the patient information

2   data set comprises data associated with a plurality of fields, the plurality of fields including a

3   first field to receive a first measurement value for a patient symptom test and a second field

4   to receive a second measurement value for the patient symptom test, and wherein the method

5   further comprises:

6   validating that the second field includes the second measurement value; and

7   prompting the physician to enter the second measurement value into the

8   second field if the second field does not include the second measurement value.

1   50.   The method as recited in claim 49, further comprising:

2   validating the second field against the first field to determine if the second

3   measurement value is reasonable in view of the first measurement value; and

4   if the second measurement value is not reasonable in view of the first

5   measurement value, prompting the physician to verify the first measurement value, verify the

6   second measurement value, enter a new first measurement value, or enter a new second

7   measurement value.

1   51.   The method as recited in claim 39, further comprising:

2   receiving a data set comprising subjective patient information entered by a

3   physician; and

4   normalizing the subjective information to adjust for physician biases.